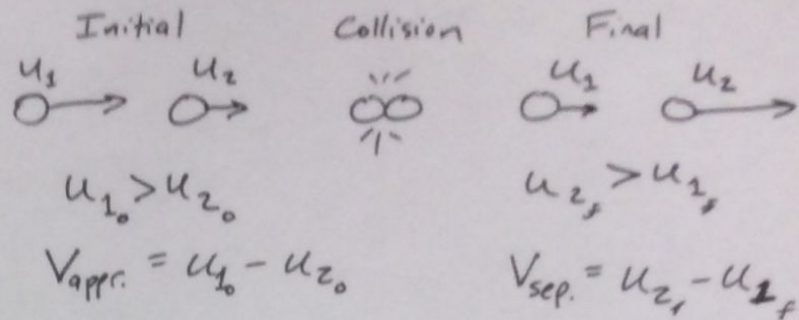


Coefficient of Restitution WS 1

$$e = \frac{\text{separation velocity}}{\text{approach velocity}}$$

$$e = \left(\frac{u_{2f} - u_{1f}}{u_{1o} - u_{2o}} \right)$$



For perfectly elastic collisions : $e = 1$

Therefore $u_{1o} - u_{2o} = u_{2f} - u_{1f}$

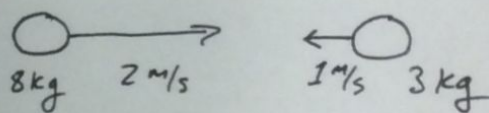
For inelastic collisions : $e = 0$

Therefore materials stick together along the line of impact.

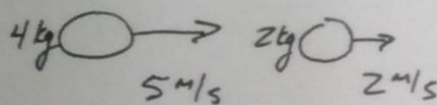
A one dimensional collision occurs between m_1 & m_2 .

Find the magnitude and directions of v_{1f} & v_{2f} .

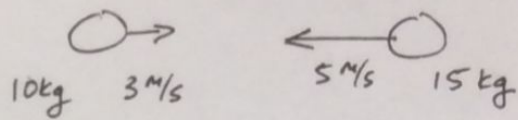
#1 Elastic collision



#2 Elastic Collision

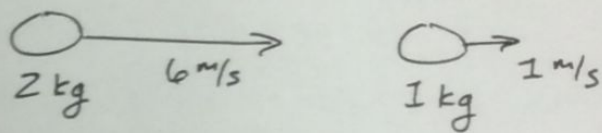


#3 Elastic Collision



For inelastic collisions $V_{A_0} m_A + V_{B_0} m_B = (V_{\text{total}})(m_A + m_B)$

#4 Inelastic Collision



#5 Elastic Collision

